band. ESMR can be deployed on
ESMR was developed by Nextel
tber of SMR frequencies, applied
be a nation-wide radio service in
port low-speed data, as well as
ancy of bandwidth utilization and
ved. See CDMA.

SMTP), described in RFC 1651.

AN.

of emergency numbers that cor-
his list has to do with 911 serv-
of the corresponding police, fire
"list" is used for selective rout-
Safety Answering Positions. The

uniquely identifies each cellular
de, a reserved area, and a man-
its the terminal, is hard-coded,
a MIN (Mobile Identification
o the mobile base station every
ing office checks the ESN/MIN
reported stolen, that the user's
I to go through. At least that's
from roaming cellular phones.
SNs tampered with (it's called
also EESN and MIN.

a desk tickets, it describes situ-
ower cord not plugged in, the
led SUT, for Stupid User Tricks.

Port (ESP) adapter, introduced
COM2 serial port adapter. The
nications coprocessor. The ESP
d new standards in the same
SP port can be independently
DIP switches and can be modi-
P uses Programmable Option
rial Interface.

telephone lines using his own
ovider. An example of an ESP
ay one giving the latest airline
ere they're most called VANs,
re and Information Provider.

virtual private networking pro-

I development in Information
ram funded by the European

d System (M-ES) registration

designation for the switching
general use now. In the inde-
e same thing is EAX. The first
New Jersey.

handle over 100,000 trunks
large and sophisticated and
in the world.

ESS No 5 AT&T's Class 5 digital central office. See also End Office.
Essential Lines A telephone company definition. In order to guarantee to cer-
tain customers the ability to make outgoing calls during an emergency, the telephone com-
pany's Customer Services Department designates these customers as "essential."
Examples of essential lines are:. police and fire departments, ambulance companies, hos-
pitals, etc. Whenever Line Load Control is activated, outgoing service may be selectively
denied to nonessential customers in order to preserve originating calling capacity for those
customers having a documented priority. Also see - Class A Lines.
Essential Service 1. A service provided by a telecommunications provider, such
as an operating telephone company or a carrier, for delivery of priority dial tone. Generally, only
up to 10 percent of the customers may request this type of service. See Essential Lines.
2. A service that is recommended for use in conjunction with NS/EP (national emergency)
telecommunications services.
ESSX ESSX (pronounced essex) is some local phone companies' name for Centrex.
See Centrex.
Established Connection A telephone company term. A connection on
which all necessary switching or operating steps have been taken to connect the calling and
called lines. Generally speaking, it is somewhat broader than the term "completed call," in
that it includes established connections to tones or announcements, as well as completed
calls. A completed call is a connection between two telephones.
ESZ Emergency Service Zone. This term is used in conjunction with 911 emergency
service. An ESZ is a geographic area that is served by a unique mix of emergency services.
Each ESZ has a corresponding ESN (a list of Emergency Service Numbers) which enables
911 service to properly route incoming calls.
ET Exchange Termination. Refers to the central office link with the ISDN user.
ETACS Extended TACS. The cellular technology used in the United Kingdom and other
countries. It is developed from the U.S. AMPS technology. See also AMPS, TACS, NTACS
and NAMPS.
Etailer A retailer who conducts his business by electronic commerce — i.e. over the
Internet and the world wide web.
ETB Abbreviation for end-of-transmission block. The binary code is 0111001, the hex is 71.
ETC Enhanced Throughput Cellular is an error correction cellular communications protocol,
which helps prevent disruptive signal fading and thus reduces the number of dropped calls.
Etched Antiglare treatment that prevents glare but also reduces screen sharpness and
clarity on monitors. Generally considered an obsolete technology.
Eternity Hold Our own creation for what happens when someone puts you on
long-term hold. Governmental agencies, airlines and police departments (especially when
you need them) tend to be firm believers in placing their callers on Eternity Hold. A new serv-
ice adjunct to Eternity Hold is Conference Hold. Here everyone on Eternity Hold can speak
to each other. We made this up. It doesn't exist, but we think it would be great if it did.
Ether See Luminiferous Ether.
Ethical hacking A means for identifying vulnerabilities by having an author-
ized individual(s) attempt to break into a computer system or network and report their find-
ings to the people who own and/or run the computer system or network.
EtherLEC ELEC). Ethernet Local Exchange Carrier. Facilities-based service providers
employing Optical Ethernet technology. They typically build metro Ethernet networks by leas-
ing dark fiber and installing Optical Ethernet equipment in metro POPs and collocation centers.
The "EtherLEC" business model is straightforward: provide low-cost Internet access, metro
network and WAN services based on "native Ethernet." Subscribers benefit from a lower cost
of ownership combined with lower transport costs than traditional TDM-based private lines.
EtherRing ADC Telecommunications' name for a "revolutionary new idea allowing
transport of native mode Ethernet and Fast Ethernet (100 million bits per second) data pack-
ets over a wide area network (WAN). Unlike typical Ethernet transport solutions," according
to ADC Telecommunications (www.adc.com), "EtherRing has no distance limitations."
Ethern t A Local Area Network (LAN) standard officially known as IEEE 802.3
(1980)/ Ethernet, and other LAN technologies are used for connecting computers, print-
ers, workstations, terminals, servers, etc., within the same building or campus. Ethernet
operates over twisted wire and over coaxial cable at speeds beginning at 10 Mbps. For LAN
interconnection, Ethernet is a physical link and data link protocol reflecting the two lowest
layers of the OSI Reference Model. The theoretical limit of 10-Mbps Ethernet, measured in
the smallest 64-byte packets, is 14,800 pps (packets per second). By comparison, Token
Ring is 30,000 and FDDI is 170,000.
Ethernet specifies a CSMA/CD (Carrier Sense Multiple Access with Collision Detection) MAC

(Media Access Control) mechanism. CSMA/CD is a technique of sharing a common medi-
um (e.g., twisted pair, or coaxial cable) among several devices. As Byte Magazine
explained in its January, 1991 issue, Ethernet is based on the same etiquette that makes
for a polite conversation: "Listen before talking." Of course, even when people are trying
not to interrupt each other, there are those embarrassing moments when two people acci-
dentally start talking at the same time. This is essentially what happens in Ethernet net-
works, where such a situation is called a "collision." If a node on the network detects a
collision, it alerts the other nodes by jamming the network with a collision "notification."
Then, after a random pause, the sending nodes try again. The messages are called frames
(see the diagram).

AN ETHERNET FRAME					
Preamble	Destination address	Source address	Type	Data up to 1500	Frame check sequence
8 bytes	6 bytes	6 bytes	2 bytes	bytes	4 bytes (containsCRC

The first personal computer Ethernet LAN adapter was shipped by 3Com on September 29,
1982 using the first Ethernet silicon chip from SEEQ Technology. Bob Metcalfe created the
original Ethernet specification at Xerox PARC and later went on to found 3Com. In the
October 31, 1994 issue of the magazine InfoWorld, Bob Metcalfe explained that Ethernet
got its name "when I was writing a memo at the Xerox Palo Alto Research Center on May
22, 1973. Until then I had been calling our proposed multimegabit LAN the Alto Aloha
Network. The purpose of the Alto Aloha Network was to connect experimental personal com-
puters called Altos. And it used randomized retransmission ideas from the University of
Hawaii's Aloha System packet radio network, circa 1970. The word ether came from
luminiferous ether — the omnipresent passive medium once theorized to carry electro-
magnetic waves through space, in particular light from the Sun to the Earth. Around the time
of Einstein's Theory of Relativity, the light-bearing ether was proven not to exist. So, in nam-
ing our LAN's omnipresent passive medium, then a coaxial cable, which would propagate
electromagnetic waves, namely data packets, I chose to recycle ether. Hence, Ethernet."
According to Metcalfe, "Ethernet has been renamed repeatedly since 1973. In 1976,
when Xerox began turning Ethernet into a product at 20 million bits per second (Mbps),
we called it The Xerox Wire. When Digital, Intel, and Xerox decided in 1979 to make it a
LAN standard at 10 Mbps, they went back to Ethernet. IEEE tried calling its Ethernet stan-
dard 802.3 CSMA/CD — carrier sense multiple access with collision detection. And as the
802.3 standard evolved, it picked up such names as Thick Ethernet (IEEE 10Base-5), Thin
Ethernet (10Base-2), Twisted Ethernet (10Base-T), and now Fast Ethernet (100Base-T)."
Ethernet PC cards now come in a couple of basic varieties — for connecting to an Ethernet
LAN via coaxial cable or via two twisted pairs of phone wires, called 10Base-T. See also
10Base-T, Collision Domain, Ethernet Controller, Ethernet Identification Number, Ethernet
Switch, Ethertalk, Frame, Gigabit Ethernet, Luminiferous Ether, Thinnet and Token Ring.
Ethernet Address The address assigned to a network interface card by the original
manufacturer or by the network administrator if the card is configurable. This address identi-
fies the local device address to the rest of the network and allows messages to reach the cor-
rect destination. Also known as the media access control (MAC) or hardware address.
Ethernet Controller The unit that connects a device to the Ethernet cable. An Eth-
ernet controller typically consists of part of the physical layer and much or all of the data link
layer and the appropriate electronics.
Ethernet Identification Number This is a unique, hexadecimal Ethernet
number that identifies a device, such as a PC/AT with a SpeedLink/PC16 network interface
card installed, on an Ethernet network.
Ethernet II (DIX) Defined by Digital, Intel and Xerox. The frame format for Ethernet
II differs from that of IEEE 802.3 in that the header specifies a packet type instead of the
packet length.
Ethernet M ltd wn An event that causes saturation on an Ethernet-based system,
often the result of illegal or misdirected packets. An Ethernet meltdown usually lasts for only a
short period of time.
Ethernet Packet A variable-length unit in which information is transmitted on an Eth-
ernet network. An Ethernet packet consists of a synchronization preamble, a destination ad-
dress, a source address, a field that contains a type code indicator, a data field that can vary
from 46 to 1500 bytes, and a cyclical redundancy check (CRC) that provides a statistically de-
rived value used to confirm the accuracy of the data.

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